CLOTHES DRYER

Basic Model : **DV5471AEW/XAA**

Model Name : **DV456EWHDWR**
DV456GWHDWR
DV422EWHDWR
DV422GWHDWR
DV400EWHDWR
(HUDSON DRYER PROJECT)

Model Code : **DV456EWHDWR/AA**
DV456GWHDWR/AA
DV422EWHDWR/AA
DV422GWHDWR/AA
DV400EWHDWR/AA

SERVICE Manual

CLOTHES DRYER

DV456

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2. Features and Specifications
3. Disassembly and Reassembly
4. Troubleshooting
5. PBA diagram
6. Wiring diagram
7. Schematic diagram
8. Reference information

Refer to the service manual in the GSPN (see the rear cover) for the more information.

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1. SAFETY INSTRUCTIONS

1-1. CAUTION FOR SAFETY DURING SERVICING

1. Do not allow the customer to repair the product.
   - The person may be injured or the product life may be shortened.

2. Execute A/S after unplugging the power supply unit.
   - Be careful of the electric shocks.

3. Do not plug several plugs in the same outlet.
   - It may cause a fire due to overheat.

4. Check for damage, pinching or burning of the power plug the outlet.
   - Replace it promptly if it has a problem.(It may cause the electric shocks or fire)

5. Do not clean the main body with water.
   - It may cause electric shocks and fire and shorten the product life)

6. The wiring harness shall be free from moisture and tightened during serving.
   - It shall not be deviated by certain impact.

7. Remove any dust or dirt on the housing section,wiring section,connection section during servicing.
   - Protect from possible cause of fire such as the tracking,shortage etc.

8. Check for any marks of moisture on the electrical parts, harness section etc.
   - Replace the parts or remove the moisture.

9. Check the assembly status of the parts after servicing.
   - Maintain the status before servicing.

10. Pull out the power cord by holding the plug.
    - Be careful of electric shocks and when the cord is damaged.

11. Unplug the power plug from the outlet when the dryer is not used.
    - Be careful of electric shocks and fire due to the strike of lightning.

12. Do not use or store sprays or flammable materials(including gasoline,alcohol etc.) around the dryer.
    - Be careful of explosions or fire due to electric sparks.

13. Do not put bowls of water or wet laundry on the dryer.
    - If water has penetrated into the dryer, this may cause electric shocks or fire.

14. Do not install the dryer outside exposed to moisture.
    - It may cause electric shocks and fire and shorten the product life.

15. Do not push the control buttons with an awl,pin, or sharp materials.
    - It may cause electric shocks and damage.

16. Check the dryer is leveled horizontally and installed properly on the floor.
    - The vibration may shorten the product life.

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1-2. IMPORTANT SAFETY INFORMATION

To avoid risk of fire, electric shock, serious injury, or death when using your dryer, follow these basic precautions:

1. Read all instructions before using the dryer.

2. Install dryer according to Installation Instructions. Refer to the Grounding Instructions in the Installation Instructions for proper grounding of the dryer.

3. Do not dry articles that have been cleaned in, washed in, soaked in, or spotted with gasoline, drycleaning solvents, or other flammable or explosive substances. Vapors could ignite or explode.

4. Do not use the dryer to dry clothes which have traces of any flammable substance, such as vegetable oil, cooking oil, machine oil, flammable chemicals, thinner, etc., or anything containing wax or chemicals, such as mops and cleaning cloths. Flammable substances may cause the fabric to catch fire by itself.

5. Do not store or use gasoline or other flammable vapors and liquids near this or any other appliance.

6. Do not allow children to play on or in dryer. Close supervision of children is necessary when the dryer is used near children, a safety rule for all appliances.

7. Before the dryer is removed for service or is discarded, remove doors to drying compartment.

8. Do not reach into the dryer if cylinder is rotating.

9. Do not install or store the dryer where it will be exposed to water and/or weather.

10. Do not tamper with dryer controls.

11. Do not repair or replace any part of the dryer or attempt any service, unless specifically recommended in user-maintenance instructions or in published user-repair instructions that you understand and have skills to carry out, if you are a consumer.

12. To reduce risk of electric shock or fire, do not use extension cords or adapters to connect the dryer to electrical power source.

13. Use the dryer only for its intended purpose, drying clothes.

14. Always disconnect the dryer from electrical supply before attempting any service. Disconnect the power cord by holding the plug, not the cord.

15. Do not use heat to dry articles containing foam rubber or similarly textured rubberlike materials.

16. Always clean the lint filter after every load. A layer of lint in the filter reduces drying efficiency and pro longs drying time.

17. Use only fabric softeners or products to eliminate static that are appropriate for automatic dryers.

18. Keep your dryer in good condition. Bumping or dropping the dryer can damage safety features. If damage occurs, have the dryer checked by a qualified service technician.

19. Replace worn power cords and/or loose plugs.

20. Do not tumble fiberglass curtains and draperies unless the label says it can be done. If they are dried, wipe out the cylinder with a damp cloth to remove particles of fiberglass.

21. Always read and follow manufacturers instructions on packages for laundry aids. Heed all warnings or precautions. To reduce risk of poisoning or chemical burns, keep products away from children at all times, preferably, in a locked cabinet.

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22. Never operate the dryer with the guards and/or the panels removed.

23. Do not operate the dryer with missing or broken parts.

24. Do not bypass safety devices.

25. Keep area around the exhaust opening and adjacent surrounding areas free from accumulation of lint, dust, and dirt.

26. Interior of dryer and exhaust duct should be cleaned periodically by qualified service personnel.

27. The dryer will not operate with loading door open. DO NOT bypass the door safety switch by permitting the dryer to operate with door open. The dryer will stop tumbling when the door is opened. Do not use the dryer if it does not stop tumbling when door is opened or starts tumbling without pressing or turning the START mechanism. Stop using the dryer and contact a qualified service technician.

28. Remove laundry immediately after the dryer stops.

29. ALWAYS follow the fabric care instructions supplied by the garment manufacturer.

■ Electrical service information

Electrical Dryers	240 VAC, 60 Hz, 30 Amps, 3-wire or 4-wire installations
Gas Dryers	120 VAC, 60 Hz, 15 Amps, 3-wire installations

⚠ WARNING

To reduce the risk of fire, electric shock, serious injury or death, all wiring and grounding must conform with the latest edition of the National Electric Code, or the Canadian Electrical Code, and such local regulations as might apply. It is the customers responsibility to have the wiring and fuses checked by a qualified electrician to make sure your home has adequate electrical power to operate the dryer.

⚠ WARNING

To avoid risk of personal injury or death due to electrical shock:

- Observe all local codes and ordinances.
- Disconnect the electrical power to the unit before servicing.
- Ground the appliance properly.
- Check with a qualified electrician if you are not sure this appliance is properly grounded.
- DO NOT ground to a gas line.
- DO NOT ground to a cold water pipe if pipe is interrupted by plastic, nonmetallic gaskets, or other insulating (nonconducting) materials.
- DO NOT modify the plug on the power cord. If plug does not fit electrical outlet, have proper outlet installed by qualified electrician.
- DO NOT have a fuse in the neutral or ground circuit. A fuse in the neutral or ground circuit could result in an electrical shock.
- DO NOT use an extension cord with this appliance.
- DO NOT use an adapter plug with this appliance.
- DO NOT pinch the power cord.

⚠ WARNING

To reduce the risk of fire and exposure to combustion gases, the dryer MUST be exhausted to the outdoors.

DO NOT exhaust dryer air into a window well, gas vent, chimney or enclosed, unventilated area, such as an attic, wall, ceiling, crawl space under a building or concealed space of a building.

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■ Gas dryer power supply

This equipment MUST be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electrical current. This unit is equipped with a cord having a grounding wire with a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded.

Consult a qualified electrician or servicer if grounding instructions are not completely understood, or if doubt exists as to whether the equipment is properly grounded.

Do not use an extension cord. If the product power cord is too short, have a qualified electrician install a three slot receptacle. This unit should be plugged into a separate 60 hertz circuit with the electrical rating as shown on the serial plate.

■ Proper grounding and polarization for 120 volts wall outlets

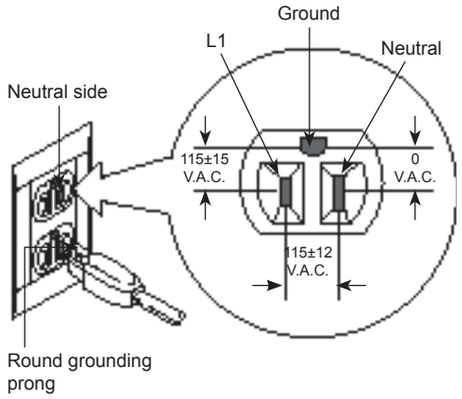
For the safety of our customers and the service technician ALL gas dryers have a three-prong power cord and MUST be connected to a properly polarized and grounded wall outlet. This information was written for those who do not understand grounding and polarization of a wall outlet. A 120 VAC wall outlet must always be wired as shown right.

Polarization - This means that the larger slot must be neutral and the small slot must be hot (live).

Mispolarized - The outlet is miswired so that the larger slot is hot (live) and the smaller slot is neutral.

Grounded - This means the round hole connection is connected to ground through a connection to the main power panel.

Ungrounded - The round hole connection is not connected to a ground and/or the main power panel.



⚠ WARNING

To avoid death, personal injury or property damage, from fire or explosion, information in this manual must be followed exactly.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department. Installation and service must be performed by a qualified installer, service agency or the gas supplier.

⚠ WARNING

To reduce the risk of fire and exposure to combustion gases, the dryer MUST be exhausted to the outdoors.

DO NOT exhaust dryer air into a window well, gas vent, chimney or enclosed, unventilated area, such as an attic, wall, ceiling, crawl space under a building or concealed space of a building.

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2. FEATURES AND SPECIFICATIONS

2-1. FEATURES

Features	Description
Extra Large Capacity	Ultra drying capabilitlites are at your fingertips! Now you can dry extra-large loads. Our ultralarge 7.3cu.ft(DV456*), 7.2cu.ft(DV422* ,DV400*). capacity dryer circulates more air through your clothes getting them dry faster, for a wrinkle-free result.
Various Drying Cycles & Fuzzy Logic Algorithm	Simply turn the Jog Dial to select one of the 11(DV456*), 9(DV422* ,DV400*) automatic drying cycles, including normal, heavy duty and towels, or let the Fuzzy Logic Control measure the degree of dampness and automatically set the drying time. Precision drying has never been easier than with Samsung.
AIR FLUFF	Want to freshen up a garment that doesn't need washing, but could use a little help after last night's party. Our Freshen Up Cycle removes odors, adding that extra freshness to give more mileage to your clothes.
Time Saving	Our cycles are designed with you in mind. All our dryers are designed to dry your clothes in less time. Giving you time for more important things in life.
Energy Saving	Samsung dryers are super energy efficient, that you can dry up to 3.09 pounds of laundry with 1kWh. Also, both the large capacity and Fuzzy Logic Control save energy by automatically drying your clothes the most efficient way.
Easy Reversible Door	Our dryers will fit just about anywhere and without a door conflict. The direction of our easy reversible door can be changed.
Sanitize course	This course allows you to sanitize garments by permeating high temperature heat deep into the fabric during the drying cycle. Use this course to keep your bedding and curtains clean through sanitization.
4-way Vent (Electric Model only)	Customer can install the exhaust vent in the following four (4) positions: back, either side, bottom.

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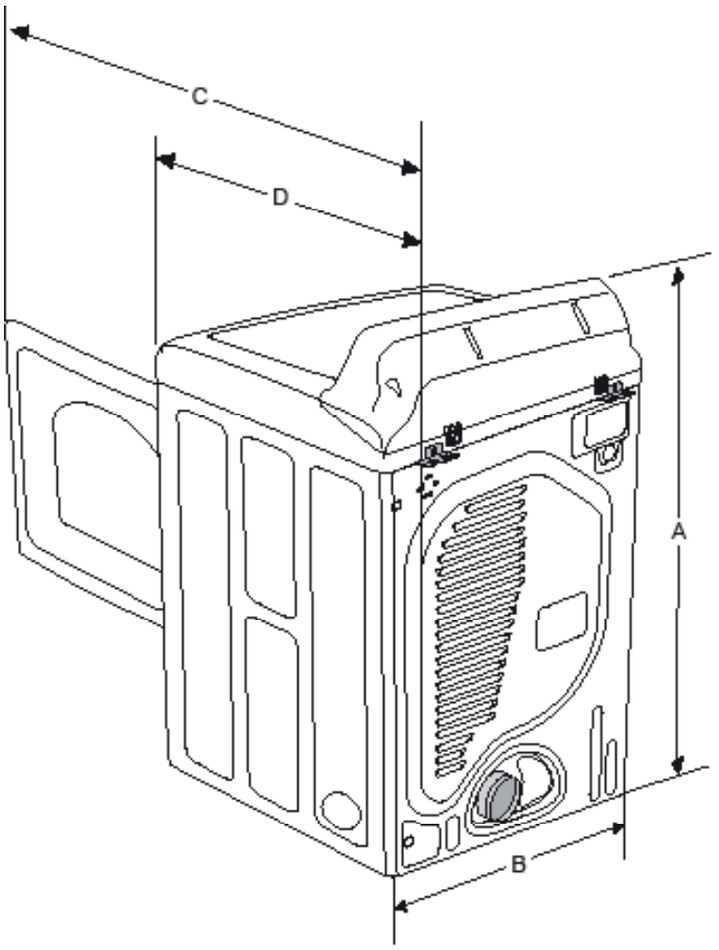
2-2. SPECIFICATIONS

Model name		DV456*, DV422*, DV400*
Type		Front loading dryer
Dimension	**A: High**	43.86" (111.4cm)
	B: Width	27" (68.6cm)
	C: Depth with door open 90°	49.80" (126.5cm)
	D: Depth	29.96" (76.1cm)
Weight		57kg
Heater rating		5,300W



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2-3. COMPARING SPECIFICATIONS WITH EXISTING MODELS

Project			Hudson Best	Hudson Good	ORCA
Model name			DV456	DV422, DV400	DV5451
Image					
Capacity (cu.ft / DOE)			7.3	7.2	7.3
Dryer type			Electric / Gas	Electric / Gas	Electric / Gas
Matching Washer			WA456	WA422,WA402	WA5451
Cycle Selection	Sensor Dry	NUMBER OF DRYING CYCLE	11	9	11
		Normal	Yes	Yes	Yes
		Heavy Duty	Yes	Yes	Yes
		Towels	Yes	No	No
		Perm Press	Yes	Yes	Yes
		Delicates	Yes	Yes	Yes
		Sanitize	Yes	Yes	Yes
		Bedding	Yes	Yes	Yes
		Wool	No	No	Yes
	Manual Dry	Time Dry	Yes	Yes	Yes
		Air Fluff	Yes	No	No
		Quick Dry	Yes	Yes	Yes
		Wrinkle-Release	Yes	Yes	No
	Steam Cycles	Refresh	No	No	Yes
		Wrinkle-Away	No	No	Yes
Option Selection		Adjust Time	UP / DOWN	UP / DOWN	UP / DOWN
		My Cycle	No	No	No
		Rack Dry	No	No	No
		Wrinkle Prevent	Yes	Yes	Yes
		# of Temp Level	4	3	4
		# of Dryness Level	4	4	4
		sound level	ON/OFF	ON/OFF	ON/OFF
		Mixed Load Bell	Yes	No	No
		Child Lock	Yes	Yes	Yes
		SMART CARE	Yes	No	No

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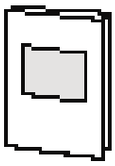
2-4. OPTIONS SPECIFICATIONS

Item		Code	QTY	Remarks
	MANUAL-BOOK	DC68-03170A	1	Default
	Inlay-Holder Glass	DC64-02819A	1	Default

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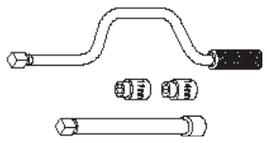
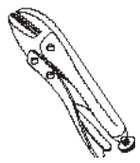
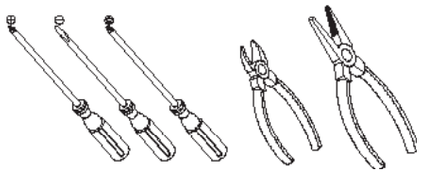
3. DISASSEMBLY AND REASSEMBLY

3-1. TOOLS FOR DISASSEMBLY AND REASSEMBLY

Tool		Type	Remarks
	Socket set with 6” extention	14 mm 17 mm	Fan (1) Roller Shaft (4)
	Wrench	8 mm	Tool to fix the Roller Shaft on removing the nuts.
	Vice pliers		Tool to protect the idle and abrasion of the bolt for the box driver.
	Other (Driver, Diagonal Cutter, Long Nose Pliers)		General tools for the after service.

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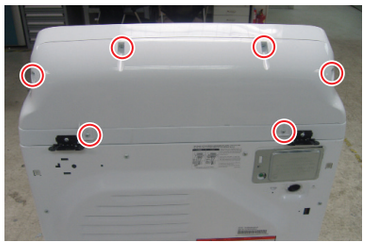
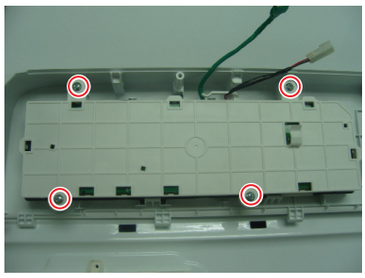
3-2. STANDARD DISASSEMBLY DRAWINGS

⚠ **To avoid risk of electrical shock, personal injury or death, disconnect the power to the Clothes Dryer.**

► This is a standard disassembly diagram and may differ from the actual product.
Use this material as a reference when disassembling and reassembling the product.

Part	Figure	Description
Panel Control Removal		1. Disconnect the power supply to the unit. 2. Remove 6 screws from the Cover Panel.
		3. Remove the Panel Control.
		4. Remove Each Housing.
		5. Remove the Knob.
		6. Remove 4 screws from the GUIDE-PCB(M). Be careful of external scratch on the Panel Control.

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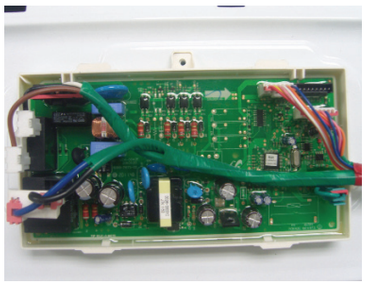
Part	Figure	Description
Main PCB Removal		1. Remove the Panel Control. 2. Separate 4 Hook From the Guide PCB.
		3. Remove the Housings.
		4. Remove 1 Screw from the Top Cover.
Top Cover Removal		1. Disconnect the power supply to the unit. 2. Remove the Panel Control and the Main PCB. 3. Remove the Cap-Cover Top and 2 screws from the Bracket Cover Top.
		4. Slide the Top Cover towards the front and lift from the unit. Scratch and impact to the top cover is prohibited.

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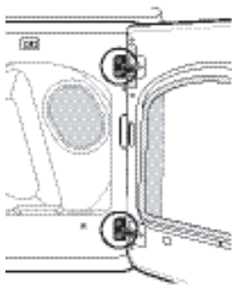
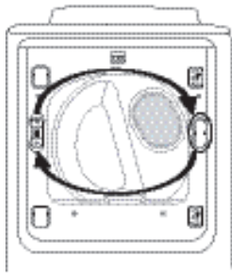
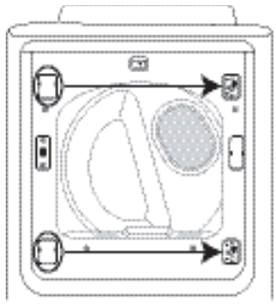
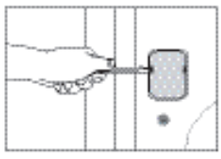
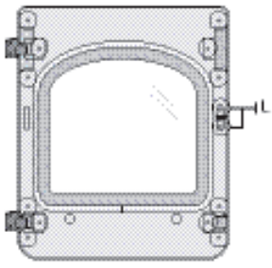
Part	Figure	Description
DOOR REVERSAL (Continued)		1. Unplug the power cord. 2. Remove the four hinge screws from the door. 3. Remove the door by lifting it.
		4. Remove the two screws from the holder-lever, and then remove the cover-holder. 5. Assemble the holder-lever on the opposite side using the screws that were removed from the holder-lever-in Step 4. 6. Assemble the cover-holder on the opposite side.
	 	7. Remove the two cover-hinges. 8. Assemble the two cover-hinges on the opposite side. Use a flat head screwdriver(-) to remove the cover-holder's cover-hinge.
		9. Remove the 14 screws. 2 screw (L) are longer than the other screws.

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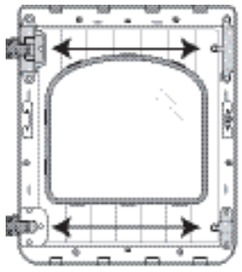
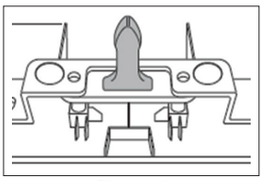
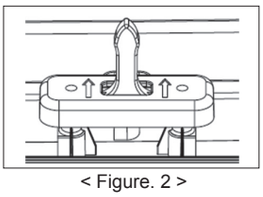
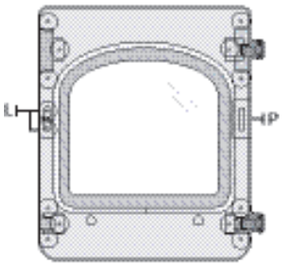
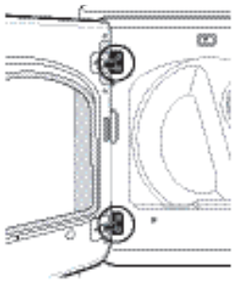
Part	Figure	Description
DOOR REVERSAL	  < Figure. 1 >  < Figure. 2 >	10. Remove the holder-glass. 11. Exchange the positions of: : The cover-hinge and handle door : The holder-hinge and guiderholder glass 12. Remove the Lever-Door, Cover-Lever (DV400 Only) and then install it on the opposite side. : DV456 & DV422 Refer Figure. 1 : DV400 Refer Figure. 2 Refer to the illustrations on the right to aid you in the assembly process.
		13. Remove the cover-hole (P1). 14. Assemble the holder glass and then fasten the 14 screws that you removed in step 9. 15. Attach the cover-hole. A spare cover hole is in the assy manual.
	 	16. Install the door on the frame-front and then fasten the 4 screws that you removed in step 2. Check the positions of the screws you installed in the hinge door

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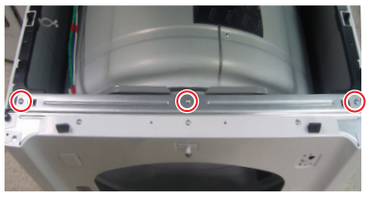
Part	Figure	Description
Frame Front Removal		1. Disconnect the power supply to the unit. 2. Remove the Panel Control, the Main PCB and the Cover Top. 3. Remove 3 screws from the Frame Front. When 1 screws of the top portion work because was added newly, keep in mind.
		5. Remove 3 screws.
		6. Remove the Door Switch Housing. When reassemble Door Switch to Frame Front, be careful for insert direction.
		7. Lift the Frame Front off the three tabs across the bottom and remove.

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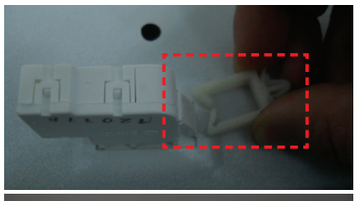
Part	Figure	Description
Frame Front Removal		[Method of Door S/W disjointing] 1. After separate Holder Wire in Door S/W, Door S/W Hook Press and is Pull to Frame Front whole surface.
		2. Pulls Door S/W to direction in 5 o'clock and separates Door S/W left part.
		3. Pull Door S/W to front side.

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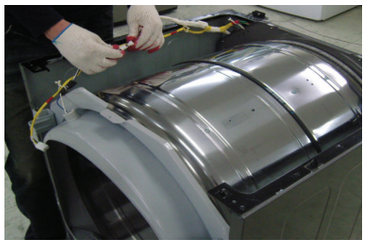
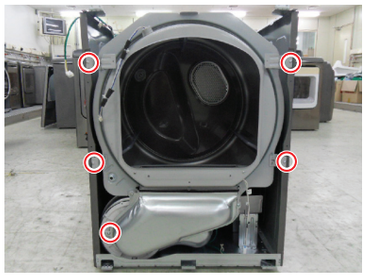
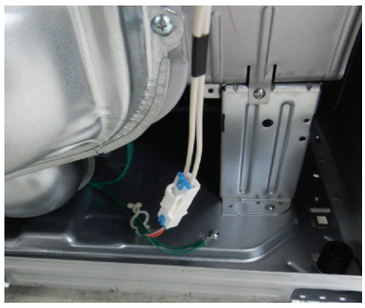
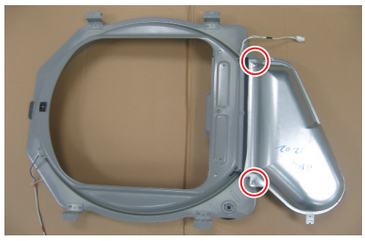
Part	Figure	Description
Drum Front Removal (Continued)		1. Disconnect the power supply to the unit. 2. Remove the Panel Control, the Main PCB, the Cover Top and the Frame Front. 3. Disconnect Interior Light wiring Harness. (DV456 Only)
		4. Remove the four Bracket Drum Front 5 screws.
		5. Disconnect the Moisture Sensor wiring Harness.
		6. Remove the Drum Front.
		7. Remove the filter.
		8. Remove 2 screws from the Duct Oulet.

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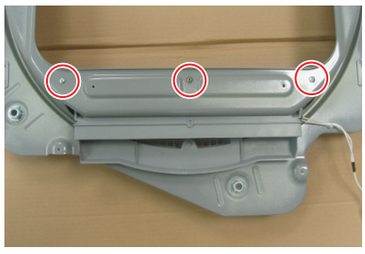
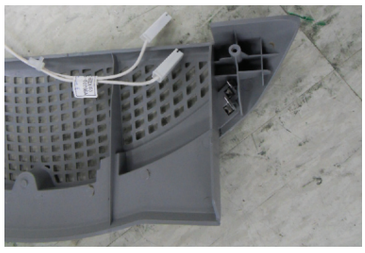
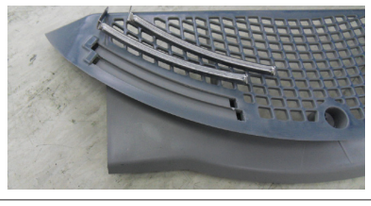
Part	Figure	Description
Drum Front Removal		9. Remove the Duct Outlet.
		10. Remove 3 screws from the Case Filter(F).
		11. Remove 1 screw from the Case Filter(B). Make sure the Filter does not get damaged by the Roller.
		12. Remove the Case Filter(B/F).
		13. Disconnect 2 Housing Sensor-Plate.
		14. Remove 2 Sensor-Plate.

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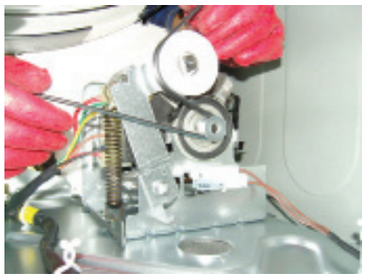
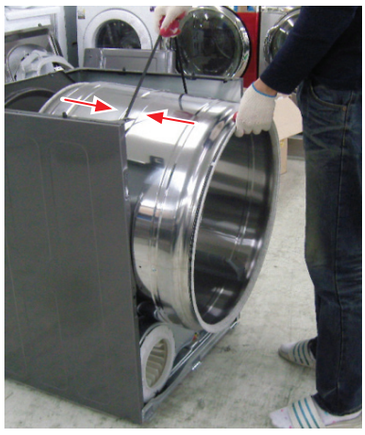
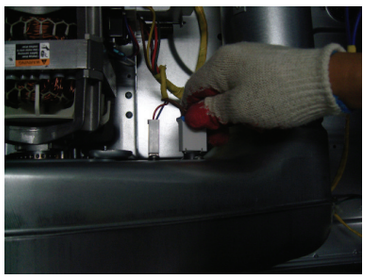
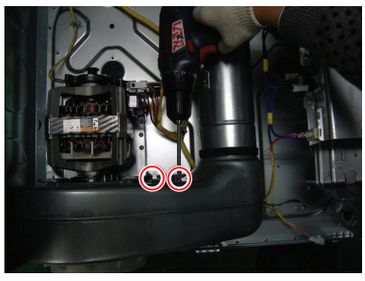
Part	Figure	Description
Drum Removal		1. Disconnect the Power Supply to the unit. 2. Remove the Panel Control, the Main PCB, the Cover Top, the Frame Front and the Drum Front. 3. Remove Belt.
		4. Remove the Drum. When reassemble the belt, make it located middle of the Drum.
Sensor (Thermistor, Thermostat) Removal		1. Disconnect the power supply to the unit. 2. Remove the Panel Control, the Main PCB, the Cover Top, the Frame Front, the Drum Front and the Drum. 3. Remove 2 Housing Sensor.
		4. Remove the Sensor. Do not apply excessive force to the terminal.

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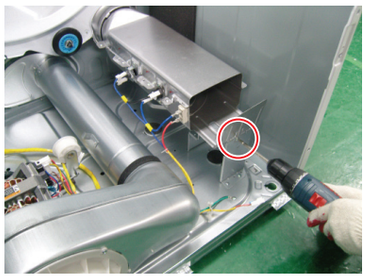
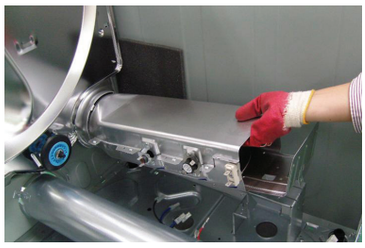
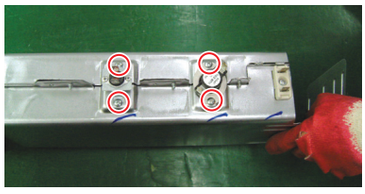
Part	Figure	Description
Heater Removal		1. Disconnect the power supply to the unit. 2. Remove the Panel Control, the Main PCB, the Cover Top, the Frame Front, the Drum Front and the Drum. 3. Removal 6 Housing Heater-Terminals.
		4. Remove 1 screw from the Heater.
		5. Separate the Heater from the Drum-back.
		6. Remove 4 screws from the Thermostats. Do not apply excessive force to the terminal.

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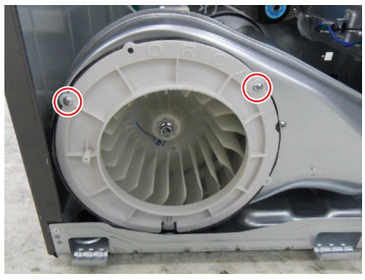
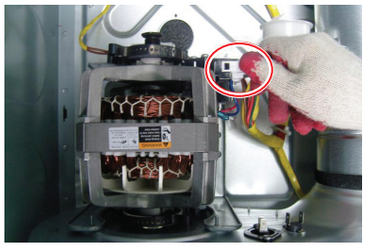
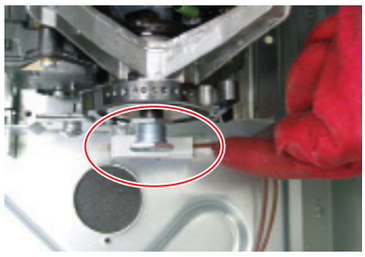
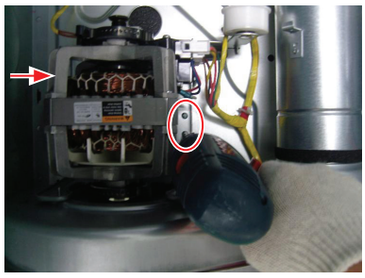
Part	Figure	Description
Assy Motor Removal (Continued)		1. Disconnect the power supply to the unit. 2. Remove the Panel Control, the Main PCB, the Cover Top, the Frame Front, the Drum Front and the Drum. 3. Remove 2 screws from the Duct Connector.
		4. Remove 1 Housing Motor.
		5. Remove 1 Housing Belt Cut Off Switch.
		6. Remove 3 screws from the Motor-Bracket.

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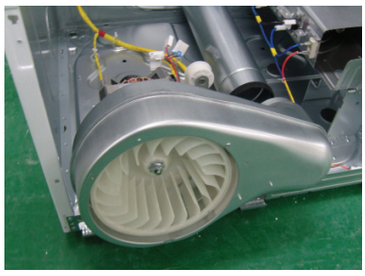
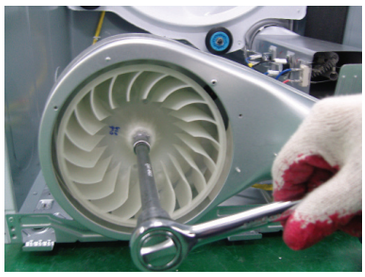
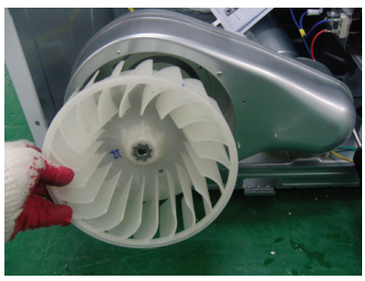
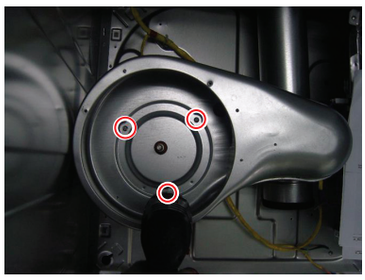
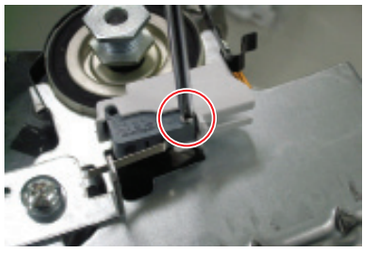
Part	Figure	Description
Assy Motor Removal (Continued)		8. Separate the Motor Assy at the Bottom Plate.
		9. Remove 1 Nut Fan. CW to remove. CCW to assemble.
		10. Remove the Fan.
		11. Remove 3 screws from the Cover-Duct Fan.
		12. Remove the 2 Spring Plate.
		13. Remove the 1 screw Belt cut Off Switch.

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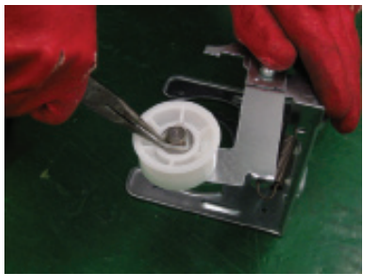
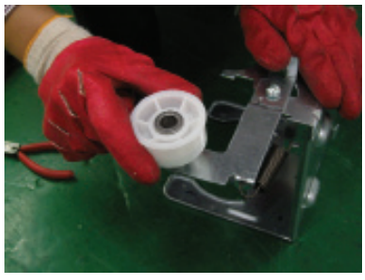
Part	Figure	Description
Assy Motor Removal		14. Remove the Holder Shaft.
		15. Remove the Roller-Idler.

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Part	Figure	Description
Drum Back Removal		1. Disconnect the Power Supply to the unit. 2. Remove the Panel Control, the Main PCB, the Top. Cover, the Frame Front, the Drum Front and the Drum. 3. Remove 7 screws from the Drum Back.
		4. Separate the wire in the Wire Holder.
		5. Separate the Drum Back from the Frame.
		6. Remove 4 screws from the Air Duct. Be careful of the Bracket edge.

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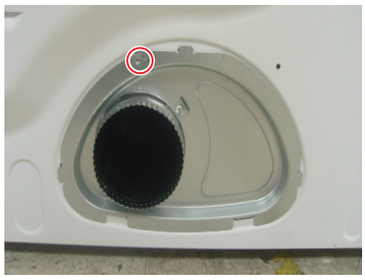
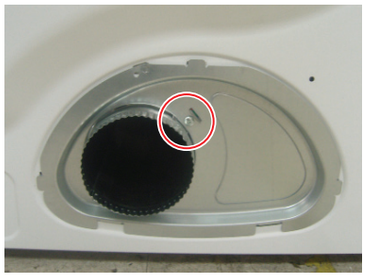
Part	Figure	Description
Duct Exhaust Removal		1. Disconnect the power supply to the unit. 2. Remove 1 screws from the Back-Cover.
		3. Remove 1 screw from the Duct-Exhaust. In case the screws for fixing a power code are dropped into the dryer, after removing Duct Exhaust, you can put it out through the hole.

Reassembly procedures are in the reverse order of dissasembly procedures.

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MEMO

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4. TROUBLESHOOTING

4-1. ERROR ITEMS AND DIAGNOSTIC CODES

An occurrence of an Error will make a sound of error melody for 5sec and continuously show one of the Error Displays from the following errors.

Error Display	Trigger	Action Taken
tE	The Thermistor resistance is very low or high.	Check for : - Clogged lint screen. - Restricted vent system. - Check Thermistor resistance.
HE	Invalid heating Temp in running the dryer.	Check for : - Restricted vent system. - Check Thermistor resistance.
dE	Running the dryer with door open.	Check for : - Close the door, and run the dryer. - Loose or open wire terminals in Door Sense circuit.
dF	Invalid door state for more than 256 milliseconds.	Check for : - Loose or open wire terminals in Door Sense circuit.
bE **(DV422, DV400)** **bE2**	Invalid state of key circuit short for 30 secs.	Check for : - Display PCB key circuit short or not.
FE	Invalid power source Frequency.	Check for : - Not using regular power source frequency. - Invalid power frequency sense circuit.
AE	Electronic Control Problem. (Communication Error)	Check for : - Check PCB and Wire harness. - Replace PCB.
Et	Invalid state of EEPROM communication.	Check for : - PCB with Eeprom circuit.
2E	Electronic control problam. (Over Voltage Error)	Check for : - Check PCB and Wire harness. - Check Power supply. - Replace PCB.

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4-2. TEST MODE

■ Continuous Run Mode

Continuous Run Mode :

1. Press Wrinkle Prevent + Dry Level for 7 sec during Power On State (Normal User Mode) .
2. Once in Continuous Run Mode, display “CC” for 1 sec and the number of Cycle for 1 sec and the remaining time for 1 sec in turns.
3. The previous cycle will restart during Continuous Run Mode until the mode is deactivated.
4 During Continuous Run Mode, press Wrinkle Prevent + Dry Level for 7 seconds to return to normal user mode.

■ Service Mode

Definition of Service Mode :

- Dryer must be on before Service Mode can be entered.
- Upon entry into Service Mode, the Sensor Bar Touch Data will be shown (Default Service Mode).

How to Enter :

- To enter Service Mode, press Wrinkle Prevent and Temp Keys for 3 seconds, until it sends out a beeping sound.
- If pressing Wrinkle Prevent + Temp Keys for 3 seconds in Service mode , it will return Normal mode.
- Even though entering Service mode, the operating cycle will not be influenced.

■ Sensor Bar Touch Data Mode

Definition of Sensor Bar Touch Data Mode :

- This action will put the dryer into sensor bar touch data mode.
- Dryer will display Sensor Bar data. This mode is default mode of entering service mode

How to Enter :

- With Power On pressing Wrinkle Prevent and Temp Keys for 3 seconds.

■ Cycle Count Mode

Definition of Cycle Count Mode :

- This mode is to bring up the total number of cycles that User have carried out.

How to Enter :

- To enter cycle count mode press the Wrinkle Prevent in Service Mode.

■ Software Version Mode

Definition of Software Version Mode :

- It is to retrieve its software version.

How to Enter :

- At Service Mode, press Temp until it sends out a beeping sound.
  ex) In case of “U0 05”, U0 means major version “U0” 05 means minor version “05”.
- If press Temp key In Software Version Mode, it will return Service Mode.

■ Data Display Mode

Definition of Temperature Display Mode :

- Display Mode 0 : Temperature data(Celsius).
- Display Mode 1 : Average Touch Sensor data for 1 minute.
- Display Mode 2 : Average Temperature(Celsius) data for 1minute.

How to Enter :

- With Power On, press AdjustUp Key + AdjsutDown Key for 7 seconds until it sends out a beeping sound.
- If not pressed any keys for 5 minutes, it will be set back from Data Display Mode.
- If pressing AdjustUp Key in this mode ,Display Mode ID will be increased.
- If pressing AdjustDown Key in this mode ,Display Mode ID will be decreased.

Converting °C → °F

Celsius(°C)	-30	-10	10	30	50	70
Fahrenheit(°F)	-22	14	50	86	122	158

$F = 9/5C + 32$

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■ System Check Mode

Definition of Service Mode :

- - " t2 " will display.
- System Check Mode(t2 mode) Progress Function Performed Start/Pause Motor(CW) Relay On → Heater Relay On → Heater Relay Off, Motor(CW) Relay Off

How to Enter :

- While in Power Off, pressing the Dry Level + Power keys simultaneously will put the dryer into the System Check mode.

4-3. TROUBLE DIAGNOSIS

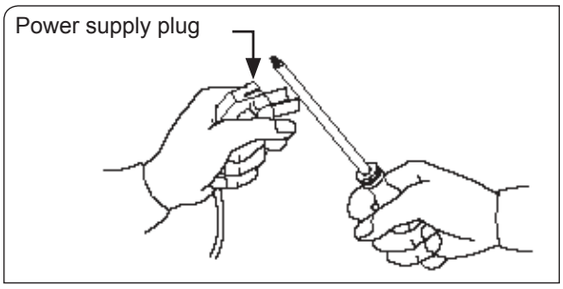
As the micom dry machine is configured for the complicate structure, there might be a service call.

The below information is prepared for exact trouble diagnosis and suitable repair guide.

■ Caution for the repair and replacement

Please follow below instruction for the trouble diagnosis and parts replacement.

1. As some electronic components can be damaged by static electricity from the resin part of dryer or the human body, remove the potential difference of the human body and the dryer by contacting the power plug before you start working at PCB.



2. Since AC220~240V is applied to the triac T1 and T2 on P.C.B, the electric shock may occur by touching. Be careful the strong and weak electricity are mixed each other.
3. As the P.C.B assembly is designed for no trouble, do not replace the P.C.B assembly by the wrong diagnosis and follow the procedure of the trouble diagnosis when the micom is not operated normally.

No	Problem	What to do
1	Will Not Start or Run	• All wires are hooked up to their corresponding terminals. • Is the dryer is plugged in. • Blown fuse or circuit breaker. • Is the Door switch functional...door closed. Check for error code 3 (See Table for code definition). • Start/Pause rotary selector dial functional. • Is the control Board operational. • Belt off or broken and Belt Cut-off Switch operates. • Is the motor functional. • Check motor winding resistance: 2.88ohms between pin #3 and 4, 3.5ohms between pin #4 and 5.
2	Motor runs/ tumbler will not turn	• Belt off or broken/damaged. • Idler tension spring too weak or stretched. • Idler pulley jammed or stuck.
3	Runs a few minutes and then stops	• Lint buildup around drive motor. • Low voltage present. • Blower impeller blocked in blower housing. • Check the actuator of motor.

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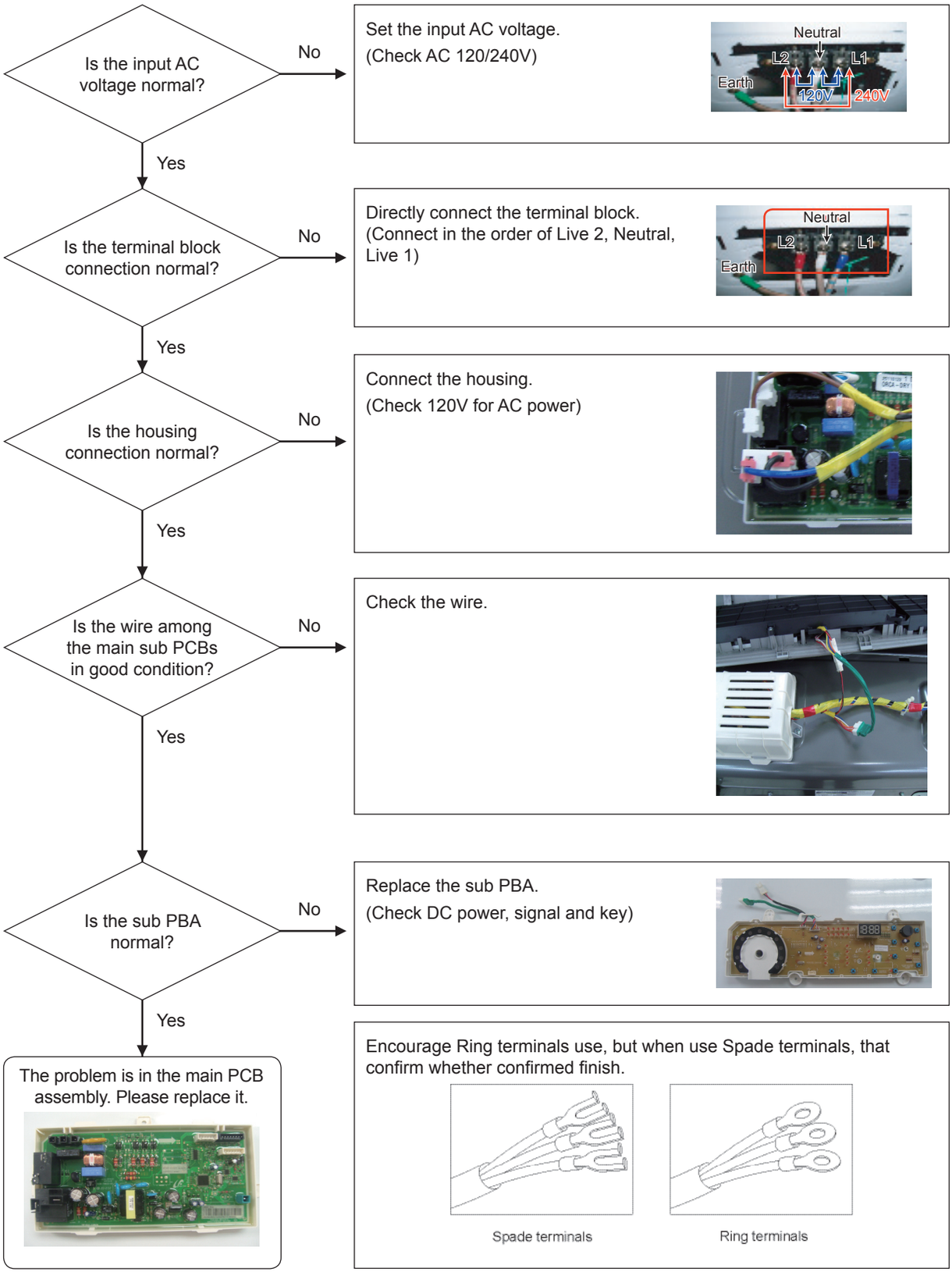
No	Problem	What to do
4	Blows fuses or trips circuit breaker	- Is the belt connected well? - Is the winding of the motor continuous? (Rotor winding, stator winding, generator) - Is the motor protector normal? • If above points are not found, the PCB assembly is out of order. Replace it.
5	Blows fuses or trips circuit breaker (Gas Model)	• During ignition the dryer will draw 6 amps. With the burner ON, the dryer will draw 4.5 amps. If the dryer is drawing amperages above this, then the house wiring, fuse box or circuit breaker is suspected to be at fault. • Igniter harness loose and shorted to base. • Incorrect wiring or wire shorted to ground. • Drive motor winding shorting to ground.
6	Will not heat (motor runs)	Open heating element. • Hi-Limit trips easily or is open. • Regulating thermostat trips easily or is open. • Membrane switch open. • Check Thermistor.
7	Will Not Dry Gas Model Poor Gas Ignition	When the dryer is operated on a heat setting, the igniter should be energized and burner shall fire within 45 seconds at 120 VAC. The failure of a component in this system will usually be indicated by one of three symptoms (No.8, No.9, No.10)
8	The igniter does not glow	If the igniter does not heat up, remove power and using an ohmmeter, check the following: • Open flame sensor • Open igniter • Shorted booster coil • Open wiring • Bad motor switch (Neutral supply) • No power from control (L1 supply)
9	Igniter glows - No gas ignition	If the igniter heats up but the main burner flame is not ignited, remove power and using an ohmmeter, check the following: • Open secondary coil • Open holding coil • Open wire harness • Stuck flame sensor (Stuck closed)
10	The gas is ignited but the flame goes out	If a normal ignition takes place and after a short while the flame goes out, check for the following: • Radiant sensor contacts opening prematurely. • Weak gas valve coil may open when stressed by higher Temps. • Weak Hi-Limit • Poor venting • Bad drum seals
11	Improper drying clothes wrinkled Rough texture long dry time	• The lint filter is not clean. • Any restriction in the exhaust. • The outside exhaust hood damper door stuck closed. • Is the exhaust too long, too many elbows, flex ductwork installed. • Poor intake air available for the dryer. • Incorrect tumbler speed. Tumbler belt slipping. • Blower impeller bound; check for foreign material in blower area. • Customer overloading dryer. • Check clothing labels for fabric content and cycle selected. • Clothes too wet due to insufficient spin out by washer.
12	Noisy and/Or Vibration	• “Thumping” Check for loose tumbler baffle, rear tumbler roller(s) worn or misaligned, out-of-round tumbler or high weld seam on tumbler. • “Ticking” Check for loose wire harness or object caught in blower wheel area. • Scraping Check for front or rear bulkhead felt seal out of position or worn tumbler front bearings. • “Roaring” Check for blower wheel rubbing on blower housing or bad motor bearings. • Popping or squealing sound. Check for a sticky or frayed belt.

复件 Hudson_Dryer_SM_E.indb 29 2012-4-2 15:20:55

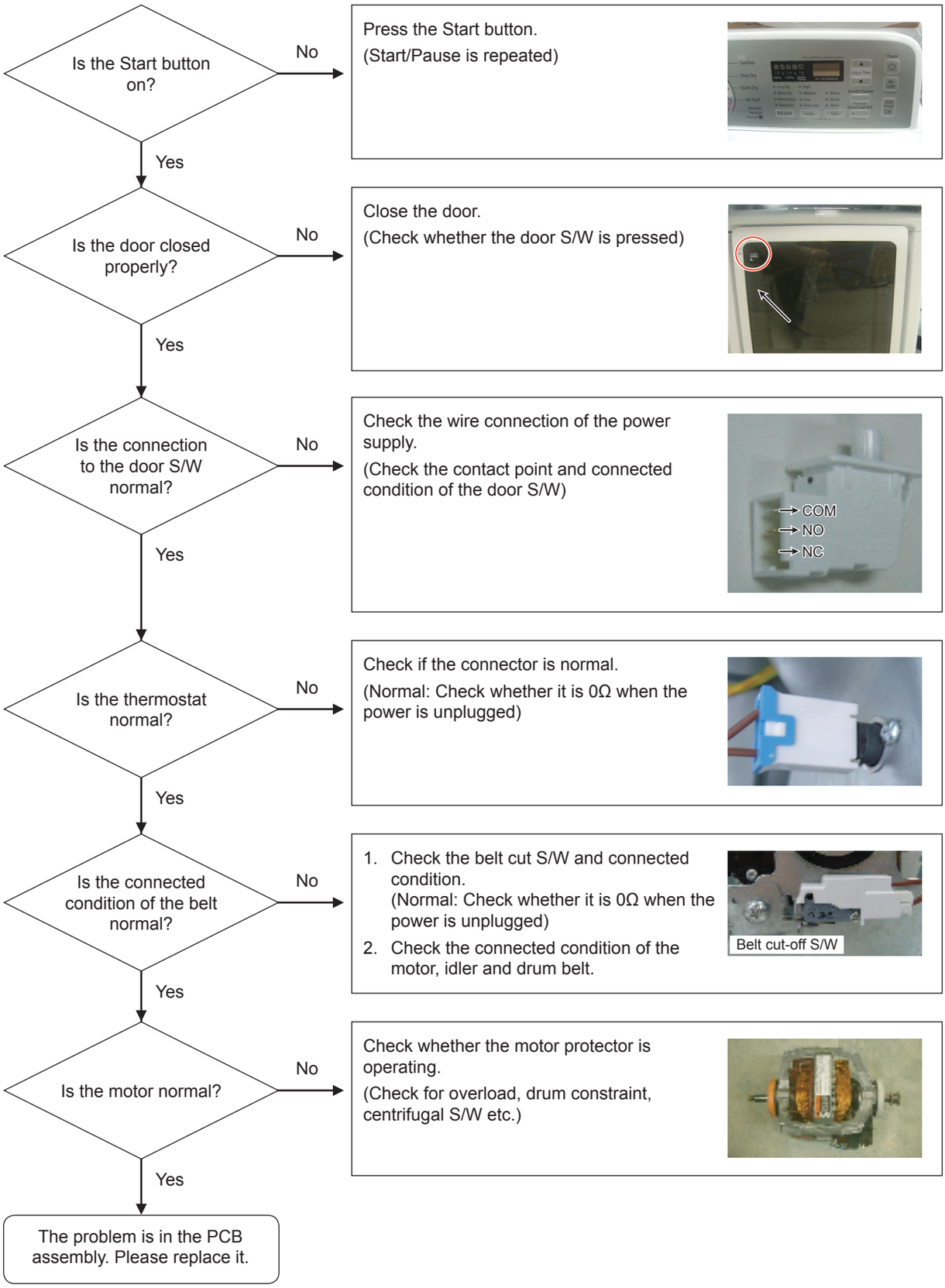
4-4. SYMPTOMS, DIAGNOSES AND ACTIONS

■ The power does not work.



复件 Hudson_Dryer_SM_E.indb 30 2012-4-2 15:20:56

■ The drum does not work.


Is the Start button on?
No
Press the Start button.
(Start/Pause is repeated)
Yes
Is the door closed properly?
No
Close the door.
(Check whether the door S/W is pressed)
Yes
Is the connection to the door S/W normal?
No
Check the wire connection of the power supply.
(Check the contact point and connected condition of the door S/W)
COM
NO
NC
Yes
Is the thermostat normal?
No
Check if the connector is normal.
(Normal: Check whether it is 0Ω when the power is unplugged)
Yes
Is the connected condition of the belt normal?
No
1. Check the belt cut S/W and connected condition. (Normal: Check whether it is 0Ω when the power is unplugged)
2. Check the connected condition of the motor, idler and drum belt.
Belt cut-off S/W
Yes
Is the motor normal?
No
Check whether the motor protector is operating.
(Check for overload, drum constraint, centrifugal S/W etc.)
Yes
The problem is in the PCB assembly. Please replace it.

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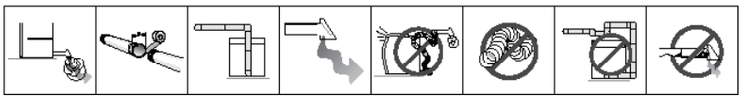
■ The clothes are not dried.

Is the vent properly installed?

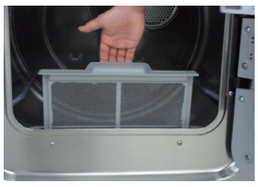
No → Install the vent so that it is not blocked to the outside.
(Check the exhaust hole)



Yes ↓

Did you clean the filter before drying?

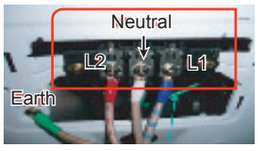
No → Clean the filter.
(Check if there are any alien particles in the filter)



Yes ↓

Is the terminal block connection normal?

No → Connect the terminal block properly.
(Check the connection of Live 2, Neutral, Live 1)



Yes ↓

Is the touch sensor normal?

No → Connect the touch sensor.
(Check the PCB and touch sensor)
▶ For further instructions, please refer to 38 page " Sensor Bar &Temperature Sensor check"

Yes ↓

Is the Tamp. Sensor normal?

No → Replace the thermistor
(Check the connection between the PCB and termistor and check for any disconnection)
▶ For further instructions, please refer to 38 page " Sensor Bar &Temperature Sensor check"

Yes ↓

Is the safety, Hi-limit thermostat normal?

No → Check the Safety, Hi-Limit thermostat.
(Check the cause of safety being off)

Yes ↓

Is the heater normal?

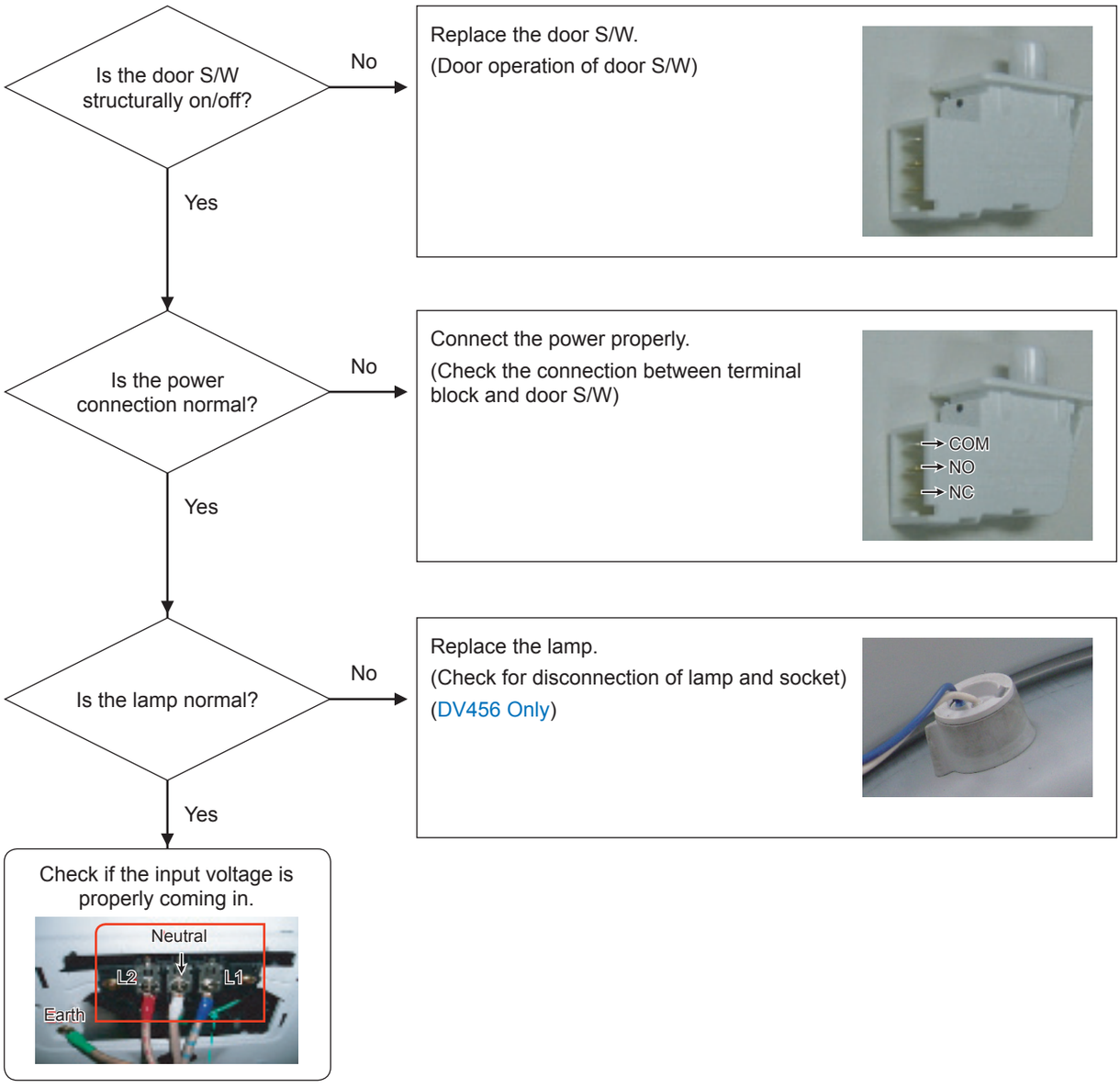
No → Replace the heater
(Remove the power and check whether the heater coil has a resistance of about 10Ω)

Yes ↓

The problem is in the PCB assembly. Please replace it.

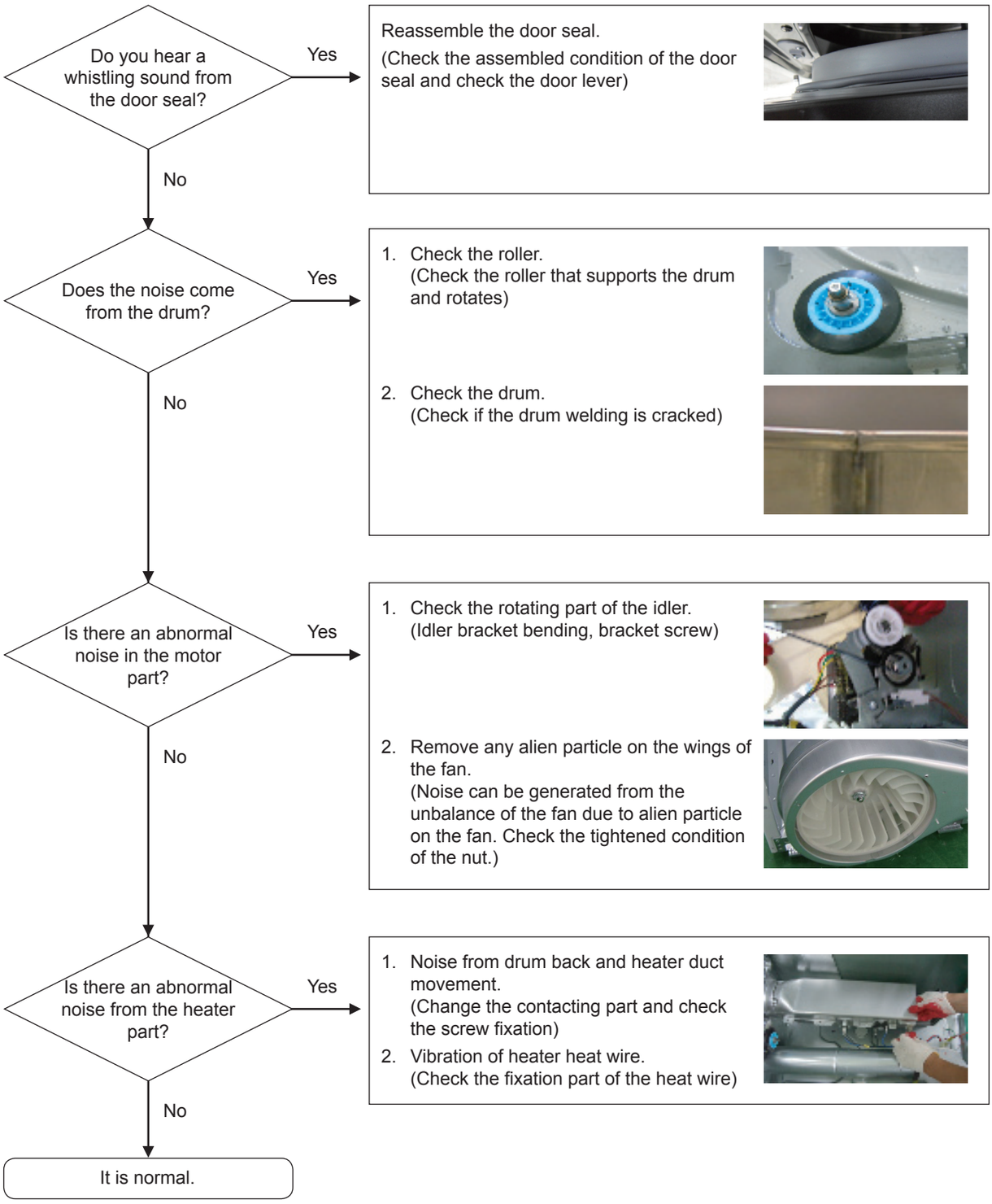
复件 Hudson_Dryer_SM_E.indb 32 2012-4-2 15:20:57

■ The lamp does not work.



复件 Hudson_Dryer_SM_E.indb 33 2012-4-2 15:20:57

There is an abnormal noise in the dryer.


Do you hear a whistling sound from the door seal?
Yes
No
Reassemble the door seal.
(Check the assembled condition of the door seal and check the door lever)
Does the noise come from the drum?
Yes
No
1. Check the roller.
(Check the roller that supports the drum and rotates)
2. Check the drum.
(Check if the drum welding is cracked)
Is there an abnormal noise in the motor part?
Yes
No
1. Check the rotating part of the idler.
(Idler bracket bending, bracket screw)
2. Remove any alien particle on the wings of the fan.
(Noise can be generated from the unbalance of the fan due to alien particle on the fan. Check the tightened condition of the nut.)
Is there an abnormal noise from the heater part?
Yes
No
1. Noise from drum back and heater duct movement.
(Change the contacting part and check the screw fixation)
2. Vibration of heater heat wire.
(Check the fixation part of the heat wire)
It is normal.

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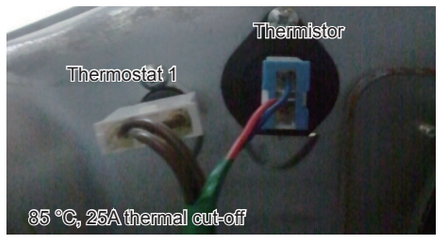
4-5. COMPONENT TESTING PROCEDURES

⚠ WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power to dryer before servicing, unless testing requires power.

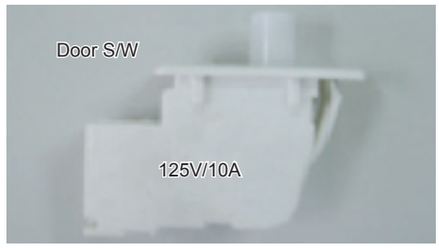
■ Component electrical testing (with ohmmeter)

- Thermistor resistance 10K Ω at 25°C 77°F
- Thermostat 1 resistance < 1Ω

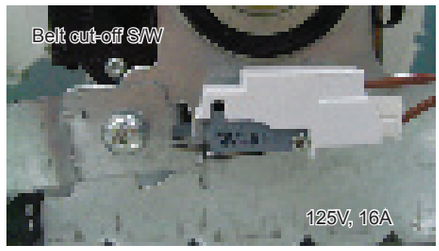


- Thermostat 3 resistance < 1Ω
  - If resistance is infinity, replace thermostat 3.
- Thermostat 2 resistance < 1Ω
  - If resistance is infinity, replace thermostat 2.
- Heater resistance 10 Ω
  - If resistance is infinity, replace Heater.

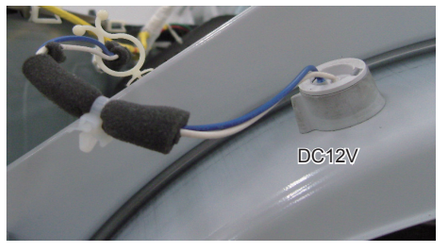
- Measure resistance of the following terminal
  1. Door switch : Off
     Terminal : “COM” - “NC” (1-3) < 1Ω
     Terminal : “COM” - “NO” (1-2) : ∞ Ω
  2. Door switch : On
     Terminal : “COM” - “NC” (1-3) : ∞ Ω
     Terminal : “COM” - “NO” (1-2) < 1Ω



- Belt Cut-off S/W
  - Lever open: Resistance value < 1Ω
  - Lever push: Resistance value ∞ Ω



- When voltage (DC12V) is linked, Lamp confirms that is lighted up.



- Motor (Electronic & GAS)

Contacts (● : Contact closed)

Function	1M	2M	3M	5M	6M
Start			●	●	
Run	●	●		●	●

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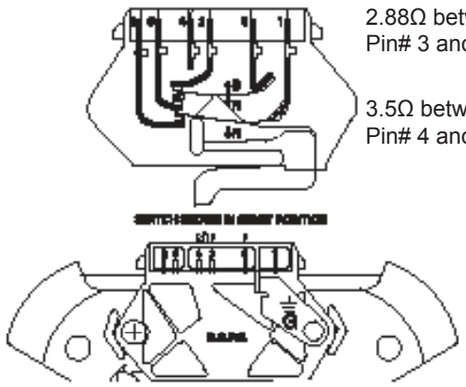
■ Centrifugal Switch (Motor)



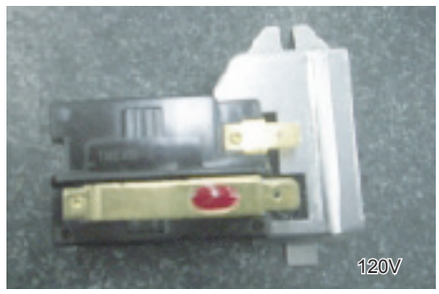
2.88Ω between
Pin# 3 and 4

3.5Ω between
Pin# 4 and 5

■ GAS MODEL

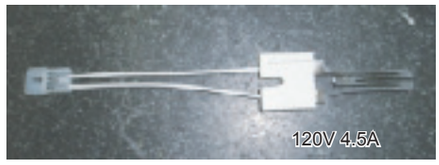
Radiant Sensor(10RS)

- Resistance value < 1 Ω
- If resistance is infinite, replace Radiant sensor



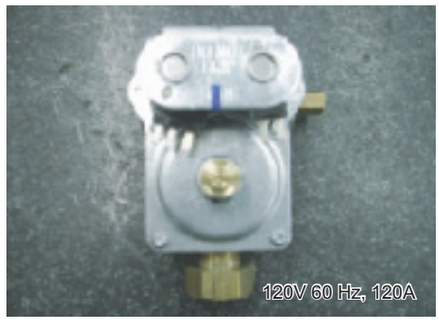
Igniter(101D)

- Resistance value 40~400 Ω
- If resistance is infinite, replace Igniter



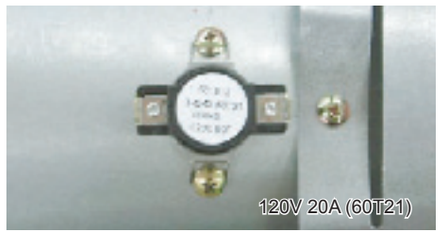
Gas Valve(25M01A)

- Valve 1-2 : Resistance value 1,365Ω
- Valve 1-3 : Resistance value 560Ω
- Valve 4-5 : Resistance value 1,325Ω
- If resistance is infinity, replace Valve



Thermostat (60T21 Hi-Limit)230F-50F

- Resistance value < 1 Ω
- If resistance is infinity, replace Thermostat



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■ Sensor Bars & temperature sensor check

Sensor Bars

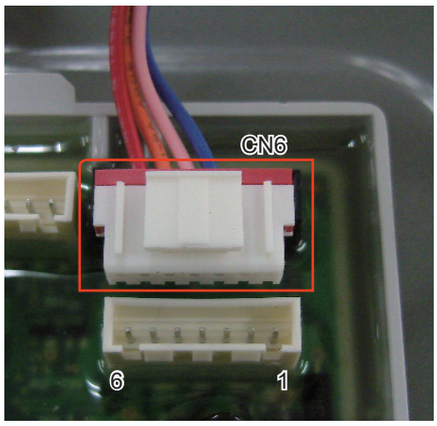
Disconnect harness and test Pink wire Pin 4 to Orange wire Pin 5.

- Approx ∞Ω without laundry
- Approx 190Ω ± 10% with wet clothes

Cycling thermistor

Disconnect harness and test Blue wire Pin 3 to Red wire Pin 6.

- Approx 10 KΩ at 25 °C/77 °F



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5. PBA DIAGRAM

5-1. MAIN PBA

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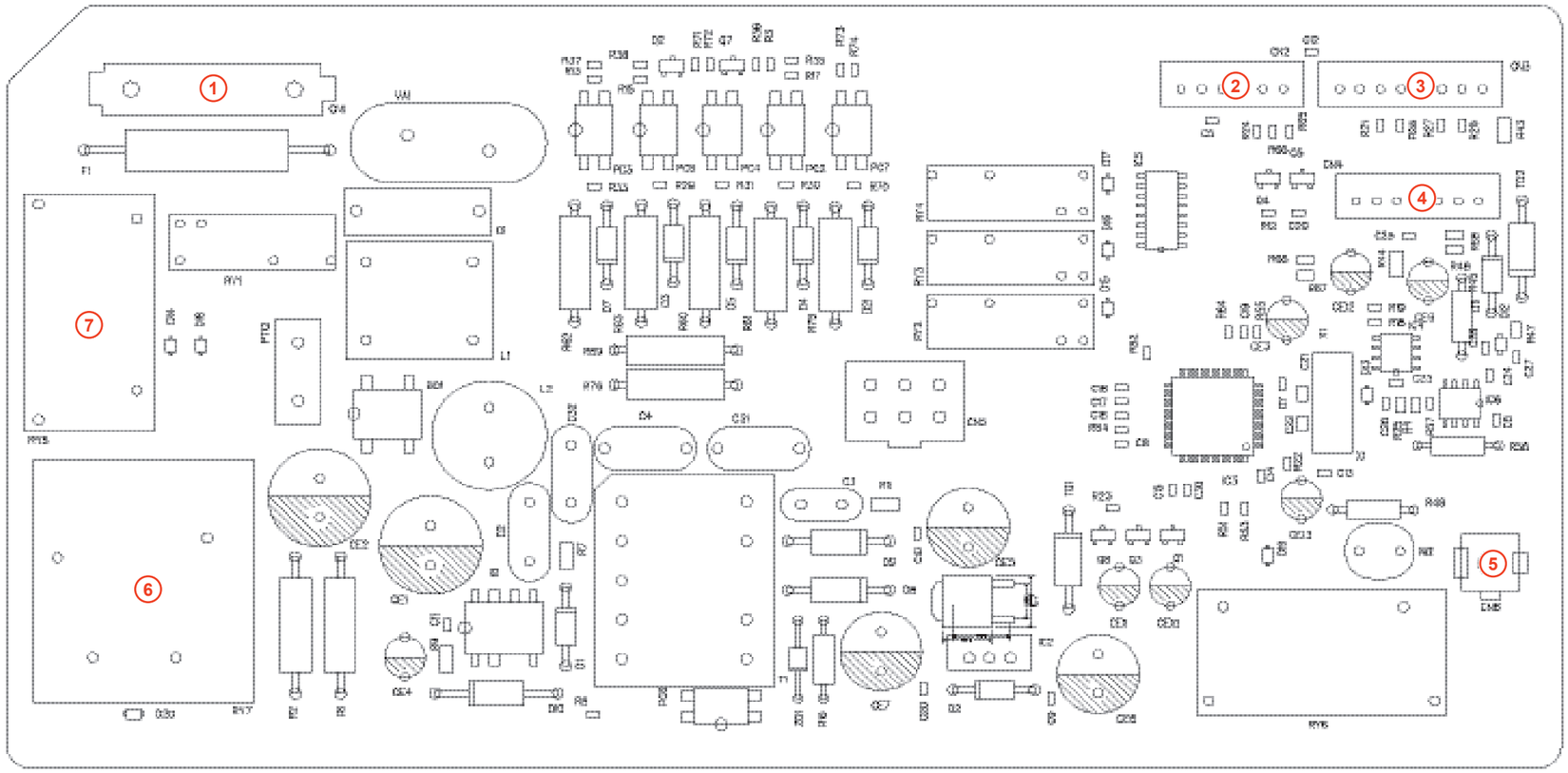

Location	Part No.	Function	
1	CN1	AC CONNECTION CONNECTOR	Supplies AC power to the PBA
2	CN2	SUB PBA COMMUNICATION CONNECTOR	The connector that controls communications with the Sub PBA corresponding to the Display.
3	CN3	MICOM FLASH CONNECTOR	The connector that writes software onto the MICOM.

Location	Part No.	Function	
4	CN4	SENSOR CONNECTION CONNECTOR	Connects the temperature sensor in order to detect the temperature of the heater.
5	CN6	SET GROUND CONNECTION CONNECTOR	The connector connecting the Dryer Set and the ground of the PBA
6	RY7	HEATER1 OPERATION RELAY	The relay that turns the Heater1 on and off.

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5-2. DETAILED DESCRIPTIONS OF CONTACT TERMINALS (MAIN PBA)

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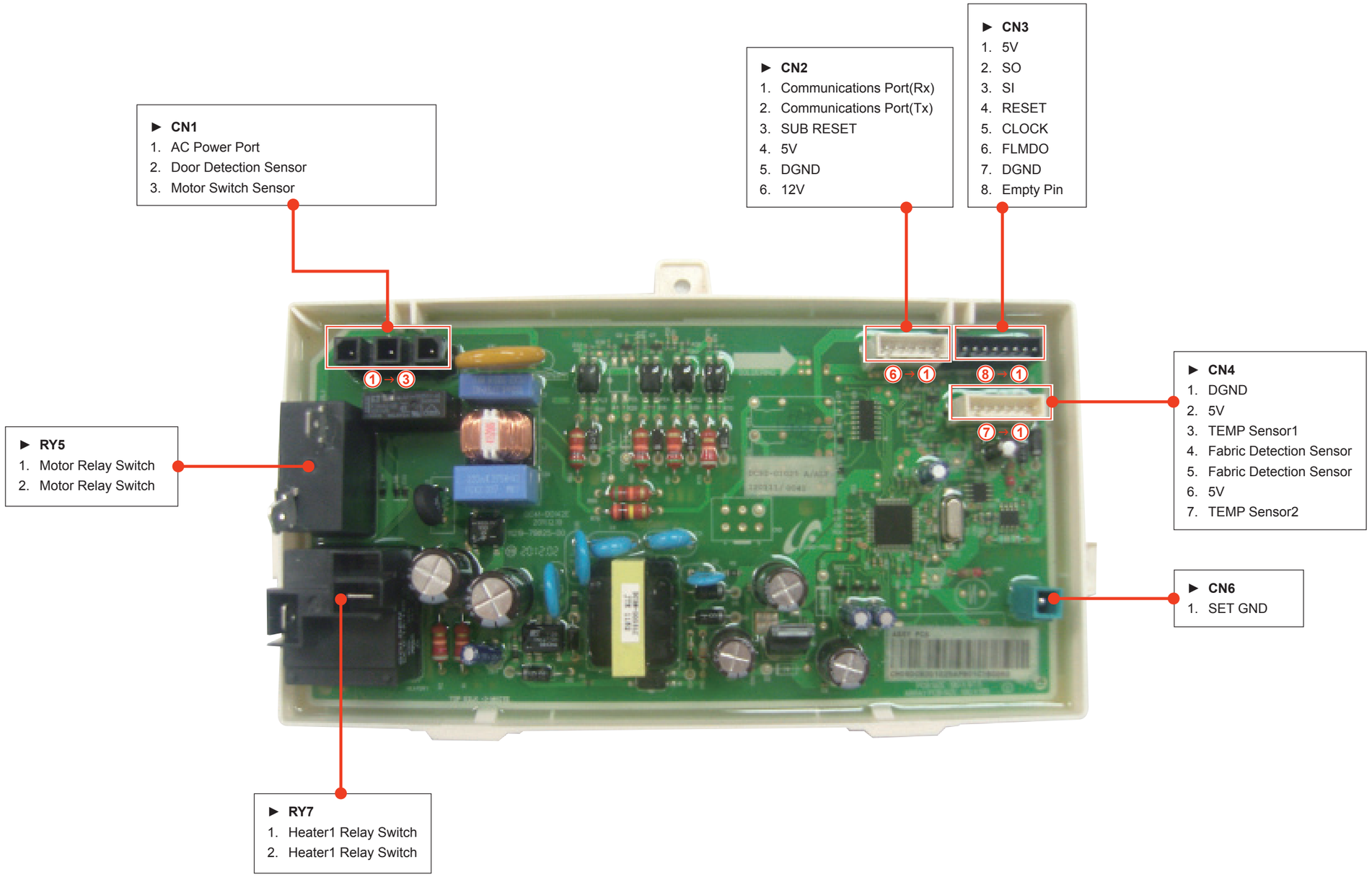

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5-3. SUB PBA

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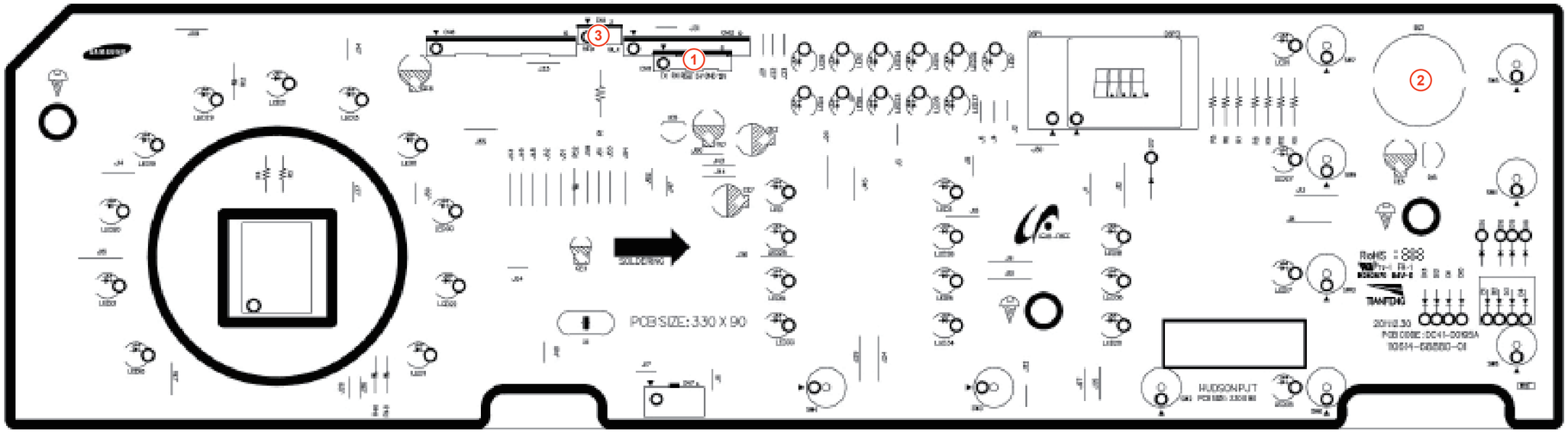

Location	Part No.	Function	Description
1	MCU CN11	Connect Main PBA	Receives power from the Main PBA and provides a communications function.
2	BZ1	BUZZER	Generates sound when the Menu key is pressed, the Encoder operates and the menu is closed.
3	CN1	Connect Lamp	-

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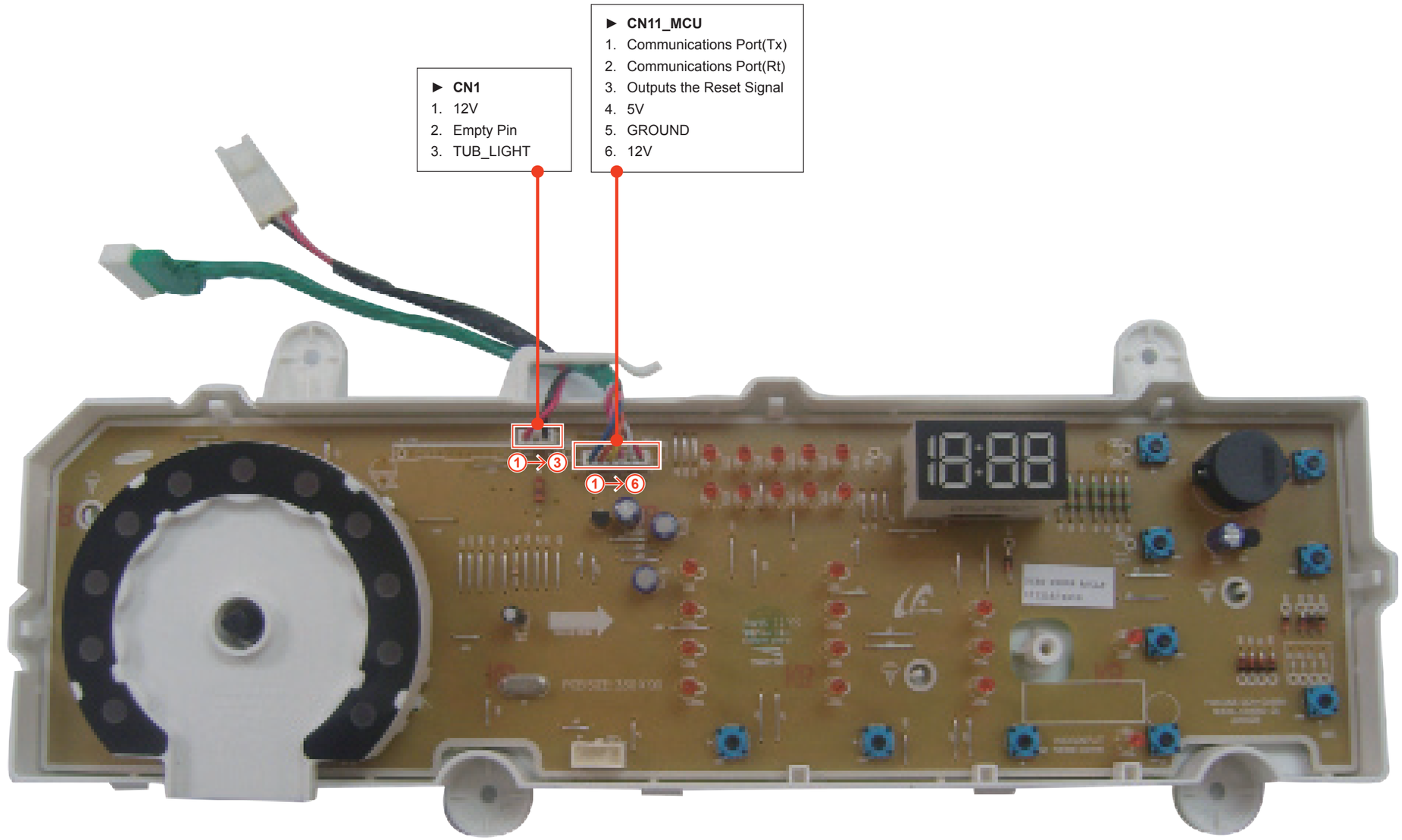
5-4. DETAILED DESCRIPTIONS OF CONTACT TERMINALS (SUB PBA)



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6. WIRING DIAGRAM

6-1. WIRING DIAGRAM (ELECTRIC DRYER)

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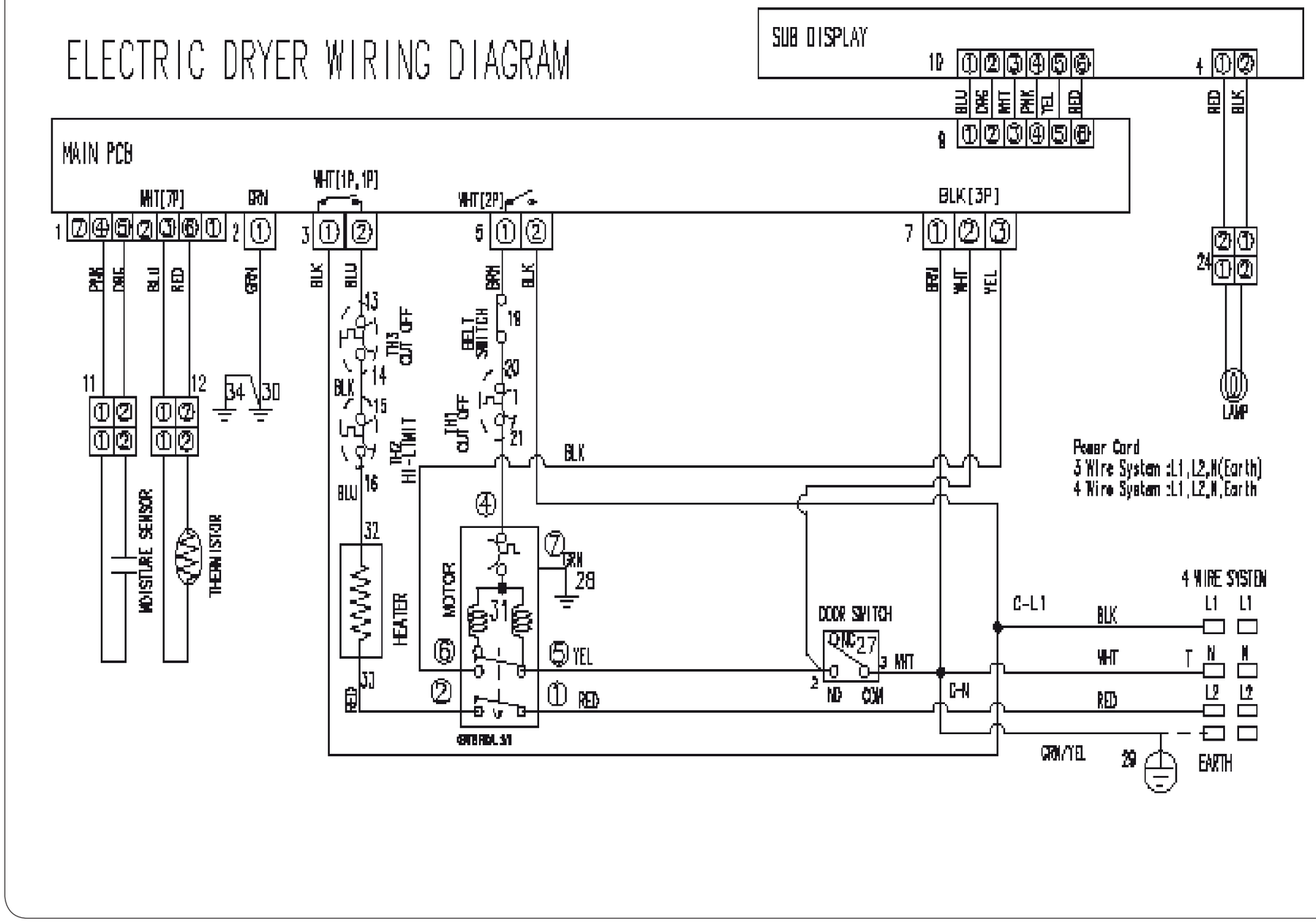
■ **Reference Information**

BLK	BLACK
BLU	BLUE
GRN	GREEN
GRY	GRAY
NTR	NATURAL
ORG	ORANGE
PNK	PINK
RED	RED
SKYBLU	SKYBLUE
VIO	VIOLET
WHT	WHITE
YEL	YELLOW



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6-2. WIRING DIAGRAM (GAS DRYER)

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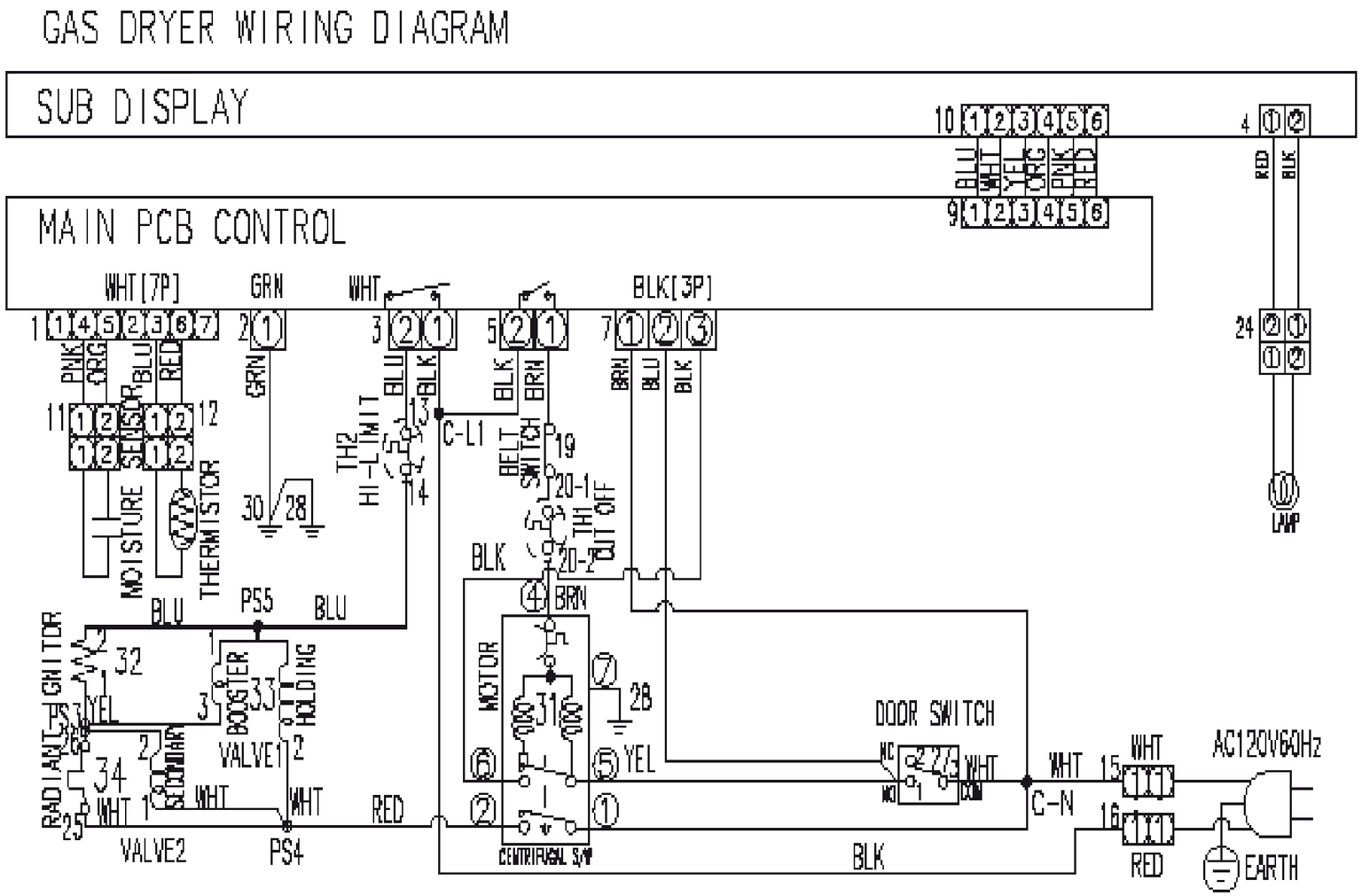
■ Reference Information

BLK	BLACK
BLU	BLUE
GRN	GREEN
GRY	GRAY
NTR	NATURAL
ORG	ORANGE
PNK	PINK
RED	RED
SKYBLU	SKYBLUE
VIO	VIOLET
WHT	WHITE
YEL	YELLOW



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7. SCHEMATIC DIAGRAM

7-1. MAIN CONTROL

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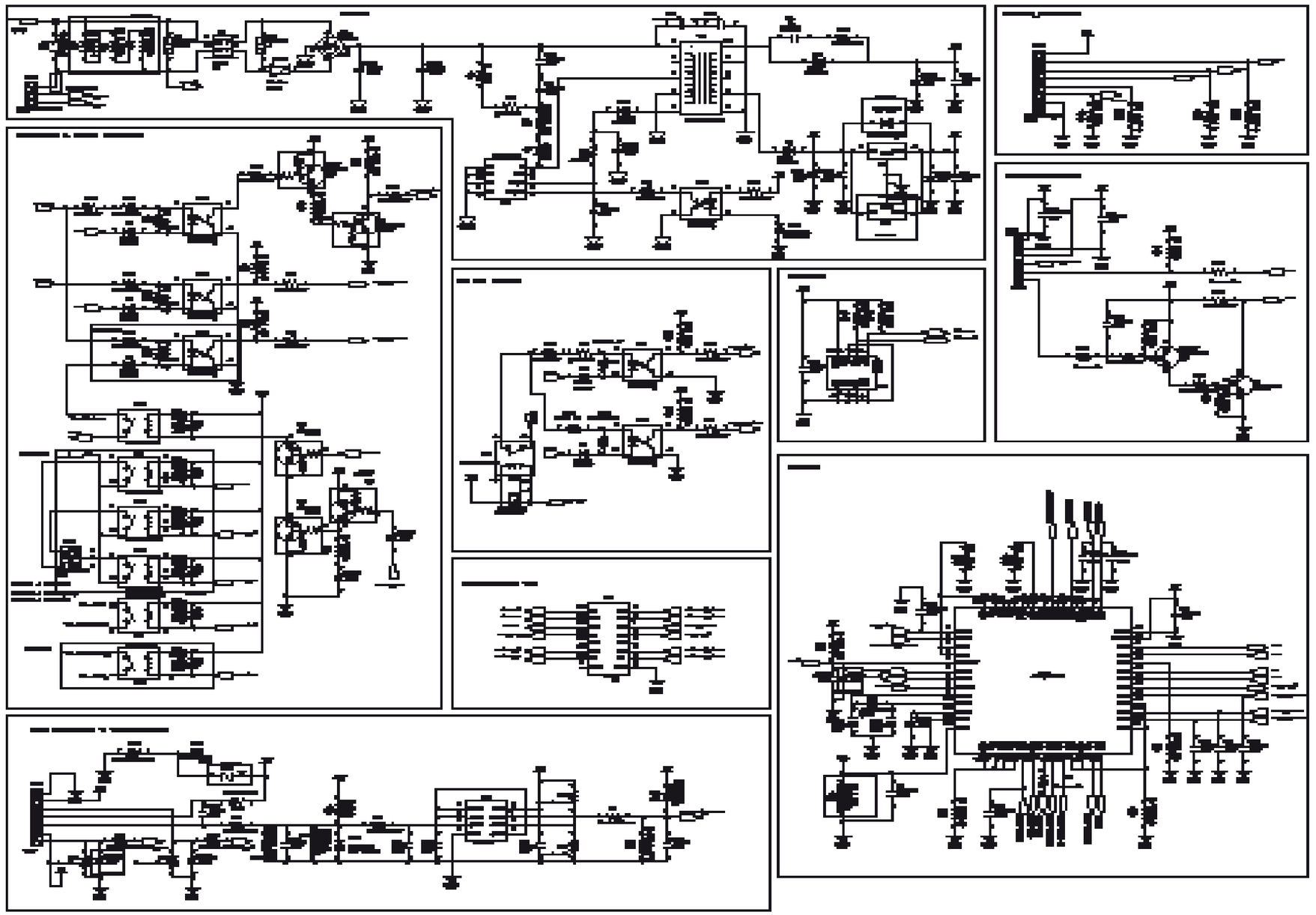

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7-2. SUB CONTROL

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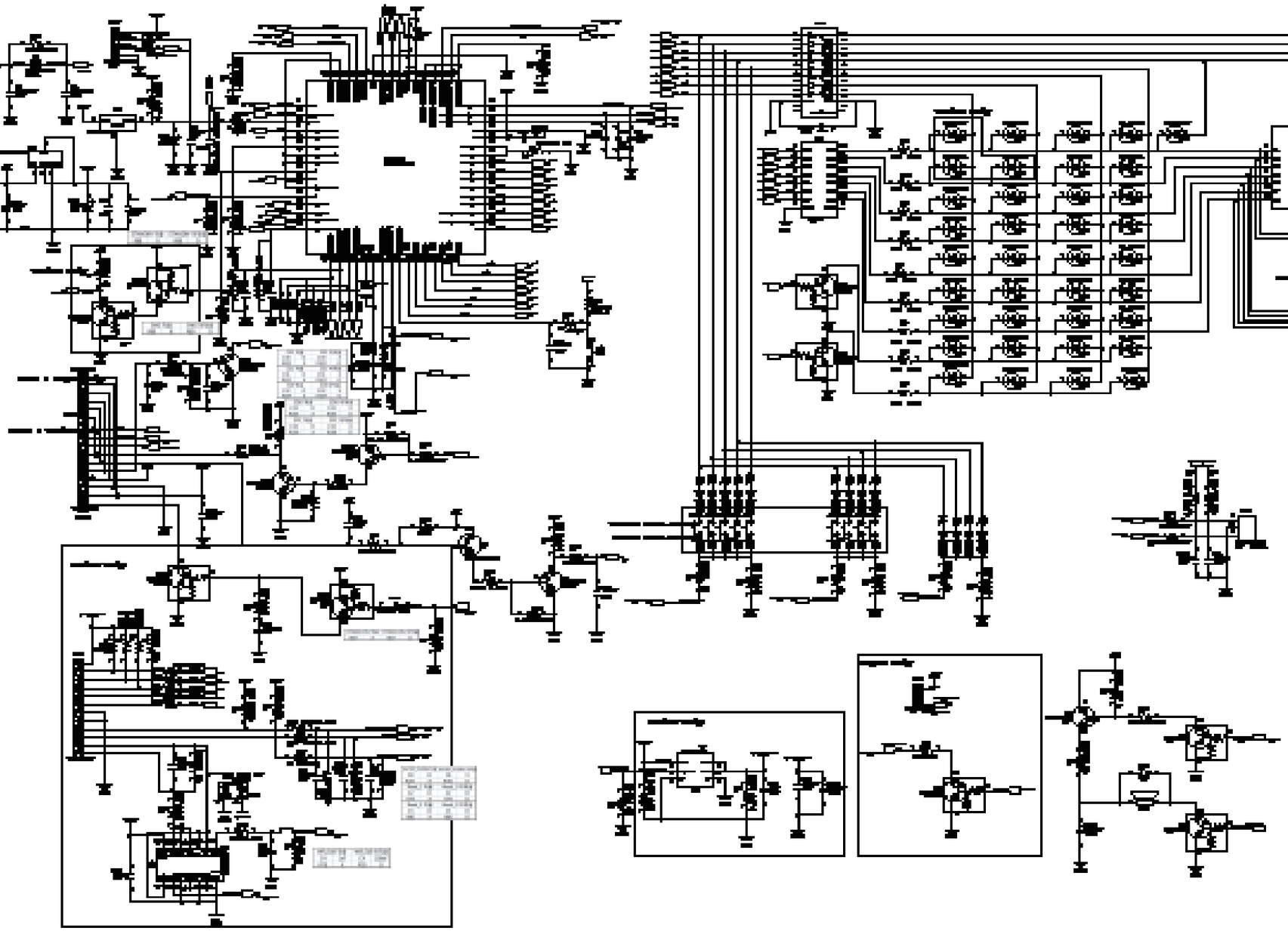

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8. REFERENCE

8-1. MODEL NUMBER NAMING RULES

Product Type			Capacity		Feature			Project		Outside Color			Buyer	
					Feature 1	Feature 2	Feature 3	Platformor Series	Sub-Platform Ver.					
	W	**F**	**4**	**7**	**9**	**D**	**R**	**V**	**A**	**W**	**D**	/	**A**	**A**
Drum-Washer	W	F	Ex : 7.5 kg = 75 10 kg = 10 5.0cuft = 50		Project Feature Table			Project Code Table		Color Code Table		/ : CBU U : SKD 1 : Service Ver.	Buyer Code Table	
Drum-Combo	W	D												
Dryer	D	V												
Washer	W	A												

Dryer is marking Pair Washer Capacity

1st Feature (Drum/Dryer)	Code	ETC
Prestiage	8	Washer (Pair Dryer)
Best	6	
Better	4	
Good	2	
Basic	0	

2nd Feature (Dryer)	Code
Vent-Elec	E
Vent-Gas	G
Condensing	C
Heat Pump (Inverter)	H
Hybrid Heat Pump	Y

3rd Feature (Dryer)	Code
Vent Sensor/Steam/ Wrinkle Prevent	V
Steam/Wrinkle Prevent	T
Wrinkle Prevent	W

Code	PJT
HA	Orca
HD	Hudson
HF	Hudson2

Color Name	Code
Neat White	WR
ULTRA INOX	SU

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8-2. MOTOR UNIVERSAL PARAMETER

Part Name	CODE	MAKER	SPEC	Resistance
DC31-00055H	Motor	Newmotek	120V, 5A 1/3HP	Mian : 3.35 Ω Sub : 3.05 Ω
DOOR SWITCH	DC64-00828B	Dae sung	125V 10A	30mΩ
LAMP	DC47-00027F	GOODS	DC 3V, 45mA, 700Lux	-
HEATER	DC47-00019A	TUTCO	240V 5300W COIL HEATER	9.2~9.6Ω
THERMOSTAT	DC47-00018A	TOD	250V 25A(126.6/98.9)	-
THERMOSTAT	DC47-00015A	PESIC	250V25A 160℃ -35℃	-
THERMOSTAT	DC47-00016A	PESIC	AC125/250V 25A 85℃ -35℃	-
THERMISTOR	DC32-00007A	JAMSTECH	25℃ 10KOHM -40~105℃ B=3945K	10kΩ
POWER CORD	DC96-00038G	YUEHUA	125V 13A	-
THERMOSTAT	DC47-00017A	TOD	120V25A 230℃ open 180 close	-
MICRO S/W	3405-001077	DECO	125V 16A	-
HEATER-IGNITER	DC47-00022A	UNIQUE SPECTRONICX	120V, 40~400Ω	40~400Ω
SENSOR-RADIANT	DC32-00008A	THERM-O-DISC	120V 5.75A 10RS, 12~20s open, 26~40s close	
VALVE-GAS	DC62-00201A	WHITE-RODGERS	GD-PJT,3WAY,MAX 10BAR,NTR,120V/50/60Hz/INCH	1365Ω 560Ω 1325Ω
POWER CORD	DC96-00762A	PERENNIAL CABLE	SNOMA/66"/BLK/DRT-30,30A 120/240,CANADA,60HZ	-

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GSPN (GLOBAL SERVICE PARTNER NETWORK)

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Asia	gspn2.samsungcsportal.com
North & Latin America	gspn3.samsungcsportal.com
China	china.samsungportal.com

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GSPN (GLOBAL SERVICE PARTNER NETWORK)

Area	Web Site
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